

 CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0030 New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2002	2PKXL05.9YK1	5.985	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Smoke Puff Limiter			Agricultural Tractor and Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NO_x), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO_x), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
130≤KW<225	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
75≤KW<130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
		CERT	0.2	7.1	--	0.6	0.23	4	2	9

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 18th day of December 2001.



R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

ATTACHMENT 1 OF 1

U-R-022-0030

Manufacturer: Perkins Engines Company Ltd
Engine category: Nonroad CI
EPA Engine Family: 2PKXL05.9YK1
Mfr Family Name: AS EPA
Process Code: New Submission

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
50 States								
	1936/2200	171.8 @ 2200	96	70.1	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	1936/2300	175.7 @ 2300	95	72.1	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	1936/2400	179.3 @ 2400	94	74.4	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	1936/2500	180.0 @ 2500	93	76.8	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	Caterpillar 3056	171.8 @ 2200	96	70.1	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	Caterpillar 3056	175.7 @ 2300	95	72.1	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	Caterpillar 3056	179.3 @ 2400	94	74.4	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	Caterpillar 3056	180.0 @ 2500	93	76.8	476.5 @ 1400	105	48.5	SPL, TAW, DDI
	1937/2200	165.3 @ 2200	90	65.3	472.0 @ 1300	104	44.6	SPL, TAW, DDI
	1937/2300	168.6 @ 2300	88	66.7	472.0 @ 1300	104	44.6	SPL, TAW, DDI
	1937/2400	171.5 @ 2400	87	68.6	472.0 @ 1300	104	44.6	SPL, TAW, DDI
	1937/2500	170.0 @ 2500	86	70.9	472.0 @ 1300	104	44.6	SPL, TAW, DDI
	1930/2000	164.0 @ 2000	92.5	61.0	489.0 @ 1400	96	44.3	SPL, TAW, DDI
	1930/2100	163.0 @ 2100	90.6	62.8	489.0 @ 1400	96	44.3	SPL, TAW, DDI
	1930/2200	160.0 @ 2200	86.5	62.8	489.0 @ 1400	96	44.3	SPL, TAW, DDI
	1956/2200	160.9 @ 2200	80	58.0	416.7 @ 1400	85	39.2	SPL, TAW, DDI